

Standing Requirements

Outcomes Library

BS in Automat&Control Engineer Tech Outcome Set

Program Objective A.: Mastery of knowledge and tools

an appropriate mastery of the knowledge, techniques, skills, and modern tools

Outcome	Mapping
SLO A.1: Use CAD, programming languages, HMI and IT Students will use CAD, programming languages, HMI and IT.	No Mapping
SLO A.2: Use electronics design and analysis tools Students will use electronics design and analysis tools.	No Mapping
SLO A.3: Apply science and engineering tools Students will apply science and engineering tools.	No Mapping
SLO A.4: Apply PLC's, DCS's, and control system equipment Students will apply PLC's, DCS's, and control system equipment.	No Mapping
SLO A.5: Use manufacturing processes Students will use fluid power, engineering materials and manufacturing processes.	No Mapping
SLO A.6: Manage automated systems Students will manage automated systems.	No Mapping

Program Objective B: Apply technical knowledge

an ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology

Outcome	Mapping
SLO B.1: Use mathematics in design Students will use mathematics in design.	No Mapping
SLO B.2: Modeling for analysis model electrical, mechanical, and process systems for design and analysis	No Mapping
SLO B.3: System design Design electrical, mechanical, and IT systems	No Mapping

Program Objective C: Experiment and apply results

an ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes

Outcome	Mapping
SLO C.1: Experimental validation develop and execute experiments to validate designs	No Mapping
SLO C.2: Lab exercises use electrical lab experiences as learning tools	No Mapping
SLO C.3: Test plans design and execute test plans as part of system commissioning	No Mapping

Program Objective D: creativity in design and application

an ability to apply creativity in the design of systems, components, or processes appropriate to the MET program educational objectives

Outcome	Mapping
SLO D.1: Mechanical design develop mechanical designs using CAD and analysis tools	No Mapping
SLO D.2: Circuit design design circuits and electrical interfacing	No Mapping
SLO D.3: Software and program development develop machine control logic, HMI applications and data handling software	No Mapping

Program Objective E: Function in team environment

an ability to function effectively on teams

Outcome	Mapping
SLO E.1: Effective team member functions as an effective team member	No Mapping
SLO E.2: Understands the purpose of teams assumes responsibility as a team member, respects chain of command and understands why teams exist	No Mapping
SLO E.3: Works and communicates in the team setting recognizes the need for good interpersonal skills and practices quality in communication in the team setting	No Mapping

Program Objective F: Effective problem solving

an ability to identify, analyze and solve technical problems

Outcome	Mapping
SLO F.1: Effectively use problem solving methods understands and uses traditional and contemporary problem solving techniques and processes	Foundational Studies: 2. Critically evaluate the ideas of others.
SLO F.2: Use electrical troubleshooting tools properly able to troubleshoot electrical circuits using typical tools and equipment	No Mapping
SLO F.3: Debugs logic and software applications exhibits the ability to logically approach and solve machine control logic programs and custom software applications	No Mapping

Program Objective G: Effective communication

an ability to communicate effectively through engineering drawings, written reports, or oral presentations

Outcome	Mapping
SLO G.1: Exhibits good verbal communications can verbally present and describe technical information and issues in a clear manner	Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing.
SLO G.2: Possesses good written communication skills can develop well-written e-mails, letters, technical documents, test plans and PowerPoint presentations	Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing.
SLO G.3: Formality and respect in communications differentiates between formal, semi-formal, and informal situations involving verbal and written protocols, including meeting	Foundational Studies: 10. Express themselves effectively, professionally, and persuasively both orally and in writing.

Program Objective H: Embrace learning

a recognition of the need for, and an ability to engage in lifelong learning

Outcome	Mapping
SLO H.1: Demonstrates a desire to learn demonstrates the desire to learn and respects those who possess knowledge	No Mapping

Program Objective I: Professional responsibilities

an ability to understand professional, ethical and social responsibilities

Outcome	Mapping
SLO I.1: Demonstrates professionalism understands the role of the professional and aspires to become a respected member of an organization	No Mapping
SLO I.2: Understands and exhibits ethics is knowledgeable on issues involving social and ethical responsibilities	No Mapping
SLO I.3: Understands the role of professional societies understands the role of professional societies play in technical professions, including automation engineering technology	No Mapping

Program Objective J: Diversity and contemporary issues

a respect for diversity and a knowledge of contemporary professional, societal and global issues

Outcome	Mapping
SLO J.1: Automated control system marketplace exhibits some knowledge of global nature of automation system use	No Mapping
SLO J.2: Social and safe design responsibility understands the importance of the social issues involved with manufacturing and safety	No Mapping
SLO J.3: Safe design practices and operations understands the responsibility of safe design practices and operations.	No Mapping

Program Objective K: Quality and continuous improvement

a commitment to quality, timeliness, and continuous improvement

Outcome	Mapping
SLO K.1: Understands the breadth of quality concerns understand how quality intersects all aspects of automation engineering technology	No Mapping
SLO K.2: Understands the importance of quality understands the importance of quality in all aspects of automation engineering technology	No Mapping
SLO K.3: Timeliness and continuous improvement exhibits a sense of urgency in all aspects of his/her work and tends to not accept complacency	No Mapping

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